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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,181	03/02/2004	Masaya Tadano	021052C	3439
23850 7590 07/26/2007 KRATZ, QUINTOS & HANSON, LLP 1420 K Street, N.W. Suite 400 WASHINGTON, DC 20005			EXAMINER FREAY, CHARLES GRANT	
			ART UNIT 3746	PAPER NUMBER
			MAIL DATE 07/26/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/790,181

Applicant(s)

TADANO ET AL.

Examiner

Charles G. Freay

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8-13 and 29-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-13 and 29-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. 10/225,442.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

This office action is in response to the preliminary amendment of March 2, 2004.

### ***Claim Objections***

Claim 9 is objected to because of the following informalities: in the last line of the claims the examiner believes that the thickness should be set forth as 2 mm to 10 mm. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/73293 (hereafter WO '293, this reference was cited by the applicant in the Information Disclosure Statement) in view of Kim et al (USPN 6,533,064 hereafter Kim) and Singletary et al (USPN 5,642,991, hereafter Singletary).

As clearly shown in Fig. 1 WO '293 discloses an electric motor driven two stage vane compressor substantially as claimed. Fig. 1 clearly shows two support members having muffler chambers (35,35) therein which are closed by bolted on covers. Close inspection of the figures shows that there is an element between the cover and the support member and that there is a groove or element between the inner peripheral surface of the cover and the outer surface of the bearing. There is also a heavily shaded line between the shaft and the bearing within each support member. WO '293 does not specifically state that there is a gasket, an o-ring or a carbon bush as claimed but shows what one of ordinary skill in the art would presume to be those elements. WO '293 also does not state the thickness of the cover or specifically show the pattern of the bolts used to attach the cover. Kim discloses a gasket (210) used to connect a muffler (200) to a compressor. Singletary discloses o-rings (70, 72) used to seal housing elements within a vane pump. At the time of the invention one of ordinary skill in the art would have found it obvious to provide gaskets and o-rings as sealing elements in the locations which seemingly disclose those elements in WO '293 in order to effectively seal the compressor and prevent leakage, thus increasing efficiency.

With regards to the thickness of the cover the examiner notes that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or

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workable ranges involves only routine skill in the art, In re Adler, 105 USPQ 233 such that one of ordinary skill in the art would have been motivated to find the correct thickness of the cover which would minimize the material used while maintaining its ability to effectively close the muffler chamber.

With regards to the refrigerant being CO the examiner notes that the type of fluid acted upon by the compressor does not structurally limit the compressor and thus this limitation does not structurally define the compressor over the prior art.

With regards to claims 12 and 13 and the limitation of auxiliary bolts placed outside the first plurality of bolts and near the guide groove, the examiner notes that as shown there are plural bolts provided around the circumference of the cover and thus some are "near" to the guide groove of the vane. Furthermore, it would have been obvious to provide more bolts for increased securing effect.

Claims 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO '293 in view of Roth et al (USPN 5,392,206).

WO '293, as set forth above, discloses the invention substantially as claimed but does not specifically state that there is a bushing between the bearing and the shaft or that the bushing is carbon. Roth et al disclose a rotary vane pump having a carbon bushing (60) between a shaft (52) and a bearing surrounding the bushing. At the time of the invention it would have been obvious to one of ordinary skill in the art to use a bushing with carbon for it's well known anti-friction properties between the bearing and the shaft.

With regards to the refrigerant being CO the examiner notes that the type of fluid acted upon by the compressor does not structurally limit the compressor and thus this limitation does not structurally define the compressor over the prior art.

### ***Conclusion***

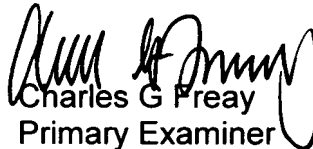
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Winiger and van der Sluis et al disclose vane pumps with bushings.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles G. Freay whose telephone number is 571-272-4827. The examiner can normally be reached on Monday through Friday 8:30 A.M. to 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on 571-272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Charles G. Freay  
Primary Examiner  
Art Unit 3746

CGF  
July 23, 2007